Brandeis University

Health Policy Research Consortium

RE-ANALYSIS OF ITEM NONRESPONSE RATES IN THE 1988 PPCIS:

A TECHNICAL MEMORANDUM

Final Report

in cooperation with

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1.0 INTRODUCTION

This technical memorandum presents a re-analysis of item nonresponse rates in the 1988 PPCIS. This memo is a supplement to the 1988 PPCIS Handbook which describes the data preparation steps taken prior to preparing the PPCIS Public Use File (Dayhoff et al., 1992).

Our approach to calculating nonresponse rates differs from that taken by NORC in the final methodological report for the 1988 PPCIS (Thalji et al., 1991). In the previous calculations by NORC, only missing, refused, and don't know items were counted as item nonresponse (i.e., included in the numerator). NORC's nonresponse rates may overstate the number of usable numeric responses available for analysis, because of the exclusion of out-of-range and uncodeable items from the definition of item nonresponse. The revised calculations consider such codes as sources of nonresponse; due to extensive cleaning by CHER, those that remain as non-numeric responses reflect either interviewer error in recording the response or respondent noncooperation in providing a usable response. Combined items may also be considered a source of nonresponse because the respondent was unable to provide a separate numeric value.

In addition, the revised calculations treat "not applicable" responses as a type of legitimate skip that was imposed ex post. In other words, the denominator is adjusted not only by the number of valid skips, but also by the not applicable responses.

2.0 METHODS

For the purpose of this analysis, two types of nonresponse rates have been calculated:

- question-level item nonresponse rate, and
- case-level item nonresponse rate.

Item nonresponse rates have been calculated for each questionnaire item included on the public use file, using the following formula:

$$INRR_q = \frac{SUM\ (.M,\ .D,\ .R,\ .X,\ .U,\ .C)}{TOTALN - VALID\ SKIPS - .N}$$

where:

$INRR_q$ = item nonresponse rate for question q,

.M = number of missing items,

.D = number of don't know items,

.R = number of refused items,

.X = number of out-of-range items,

.U = number of uncodeable items,

.C = number of combined items,

TOTALN = total number of cases (3,505),

VALID SKIPS = number of cases skipped out of item (including items on mail questionnaires that were not asked but excluding zero-filled items), and

.N = number of not applicable items.

The second measure of nonresponse is calculated at the case-level, in other words, the percent of items within each case that were non-numeric (net of valid skips and not applicable items). The following formula was used:

$$CNRR_p = \frac{SUM\ (.M,\ .D,\ .R,\ .X,\ .U,\ .C)}{TOTALI - VALID\ SKIPS - .N}$$

where:

$CNRR_p$ = case-level item nonresponse rate for physician p,

.M = number of missing items,

.D = number of don't know items,

.R = number of refused items,

.X = number of out-of-range items,

.U = number of uncodeable items,

.C = number of combined items,

TOTALI = total number of items (95 on core questionnaire, 240 on equipment supplement),

VALID SKIPS = number of items that were skipped, and

.N = number of not applicable items.

3.0 RESULTS

3.1 Item-Level Nonresponse Rates

Table 1 presents item nonresponse rates (total and by type of nonresponse) for each questionnaire item included on the public use file (including the core questionnaire and equipment supplement). Tables 2 and 3 summarize the distribution of nonresponse rates in the core questionnaire and equipment supplement, respectively. For the core questionnaire, 27 percent of the items had less than a 1 percent level of item nonresponse. Another 29 percent had 1-4 percent nonresponse. Only eight items had more than a 20 percent level of item nonresponse. Three of these variables pertain to the physician's own net income (Q. 29A, B, and C). However, the individual items give a misleading impression of the level of item nonresponse, given the way the question was asked. First, physicians were asked for the exact figure (Q.29A), and then if they did not know or refused, they were asked for the range (Q.29B). Physicians with more than $500,000 in net income were asked for the approximate amount (Q.29C). Thus, the composite variable (recoding the individual responses into a range) is a more accurate reflection of aggregate nonresponse on net income. The composite variable (which we call INC29R) has a nonresponse rate of only 8.4 percent. Other variables with a high level of item nonresponse include deferred compensation (Q.16A) and fringe benefits (Q.16B) for all physicians in the practice. Much of this was attributable to the high level of combined values, whereby deferred compensation and fringe benefits were included with wages (Q.16). Other items with relatively high levels of don't know responses include amount of income from other medical activities (Q.30A), amount of premiums to state patient compensation funds (Q.32), and reason for no malpractice premiums (Q.34).

As shown in Table 3, the level of item nonresponse is higher in the equipment supplement.* Only 5 percent of questions had less than a 1 percent nonresponse rate, while another 14 percent had between 1 and 4 percent. In contrast, 27 percent of the items had 20 percent or higher levels of nonresponse. The questions related to equipment costs and

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*It should be noted that retrieval of missing items was not performed on the equipment supplement, partially explaining the higher levels of nonresponse compared with the core survey.

maintenance costs had the highest item nonresponse rates, largely due to don't know responses. Next in order of frequency were combined responses, owing to an inability on the part of many practices to disaggregate purchase, lease, or maintenance costs according to specific types of equipment. Incomplete probing by interviewers also may have contributed to higher nonresponse on the cost questions. For example, interviewers allowed physicians to respond that the purchase price or maintenance cost was included in Q.21 (the yearly depreciation, interest, lease, and rental expenses for medical equipment not including the total purchase price or the replacement value). This was not an acceptable response since the equipment supplement was attempting to gather the purchase price (rather than yearly depreciation) for individual types of equipment, rather than for all equipment lumped together. Similarly, the interviewers did not appear to probe when the respondent indicated the equipment was "fully depreciated;" again, the intent was to obtain the purchase price not the depreciation.

Table 4 compares the original item nonresponse rates (produced by NORC) to the revised rates (produced by CHER). The revised rates differ from the original rates along three dimensions:

- Extensive cleaning was performed to retrieve numeric out-of-range values from the hardcopy instruments, develop numeric values for previously uncodeable responses, retrieve values for missing items from the hardcopy forms, and identify combined items which may have been left blank or been coded as "don't know." These efforts would tend to reduce rates of item nonresponse.
- The revised formula expands the definition of nonresponse (the numerator) to include: (1) out-of-range items for which a numeric value was not present on the hardcopy instrument or in the verbatim comments; (2) uncodeable items for which a numeric value could not be coded; and (3) combined items.
- The revised formula adjusts the denominator not only for "valid skips", but also for "not applicable" items. This code applies primarily to the Equipment Supplement--physicians who did not perform the selected procedures were excluded (ex post) from the questions on the amount of physician and nonphysician time involved.

Table 4 presents revised item nonresponse rates both including and excluding combined values. In general, the revised item nonresponse rates are slightly lower than the original rates when combined codes are excluded, due to the extensive cleaning performed (in spite of the inclusion of out-of-range and uncodeable items as additional sources of

nonresponse). The differences are most dramatic for the cost variables, where most of the cleaning was focused. However, when combined codes are included, the nonresponse rates appear to be quite a bit higher. This reflects for example, the difficulty that some physicians had in reporting deferred compensation (COS16, COS17, COS18). The imputed data included on the public use file have adjusted for combined responses by allocating total compensation across the three categories. (See Dayhoff, et al. for further details).

3.2 Case-Level Nonresponse Rates

In addition to producing question-level item nonresponse rates, we have produced rates at the case-level, indicating the completeness of reporting within individual cases. Do we find a large share of physicians missing, say, one-half or more of all items? Or, on the other hand, are the majority of cases relatively complete? Analysts may be interested in a case-level measure of nonresponse to ascertain whether the rates of missing data are unacceptably high within selected cases.

Tables 5 and 6 show the extent of item nonresponse within cases for the core questionnaire and equipment supplement, respectively. The case-level item nonresponse rates are calculated as discussed in Section 2.0 above. Ten physicians responding via mail questionnaires were excluded from this analysis, since they were administered an abbreviated questionnaire. Of the remaining 3,495 physicians, 18.3 percent had no item nonresponse in the core questionnaire (Table 5). Another 41.5 percent had 1-4 percent nonresponse. Thus, three-fifths of the respondents were missing 4 percent or fewer of the items. Fifteen percent of the respondents were missing more than 10 percent of the items. The distribution was slightly different on the equipment supplement (Table 6). A much higher share of physicians had zero nonresponse (62 percent) explained by the simplistic nature of the screener questions (yes/no) which most physicians could answer. At the other extreme, 16 percent were missing more than 10 percent of the items, similar to the core questionnaire.

REFERENCES

Dayhoff, D.A. et al., Handbook for Using the 1988 Physicians' Practice Costs and Income Survey, Final Report, Center for Health Economics Research, HCFA Cooperative Agreement No. 99-C-98526/1-08, April 1992.

Thalji, et al., 1988 Physicians' Practice Costs and Income Survey: Final Report and User's Manual, NORC, HCFA Contract No. 500-88-0045, January 1991.

TABLE 1
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
CORE QUESTIONNAIRE										
SCR5A	0	3,505	0	0.0	-	-	-	-	-	-
SCR5B	0	3,505	0	0.0	-	-	-	-	-	-
SCR5C	0	3,505	0	0.0	-	-	-	-	-	-
SCR5D	0	3,505	0	0.0	-	-	-	-	-	-
SCR5E	0	3,505	0	0.0	-	-	-	-	-	-
SCR5F	0	3,505	0	0.0	-	-	-	-	-	-
SCR5G	0	3,505	0	0.0	-	-	-	-	-	-
SCR7C	C	3,502	3	0.1	-	0.1	-	-	-	-
SCR7D	1,042	2,400	63	2.6	2.3	0.2	-	-	-	-
PRD8	10	3,486	9	0.3	-	0.2	#	-	-	-
PRD9A	0	3,501	4	0.1	-	0.1	-	0.1	-	-
PRD9B	0	3,500 *	5	0.1	-	0.1	-	-	-	-
PRD9D	10	3,492	3	0.1	0.1	-	-	-	-	-
PRD10A	445	3,048 *	12	0.4	0.1	0.2	#	-	#	0.1
PRD10B	445	3,035 *	25	0.8	0.3	0.4	#	-	-	0.1
PRD10C	445	3,031 *	29	0.9	0.2	0.4	#	-	#	0.3
PRD10D	445	3,012 *	48	1.6	0.3	0.5	#	-	-	0.8
PRD10E	445	3,027 *	33	1.1	0.4	0.5	#	-	-	0.1
PRD11A	457	3,017 *	31	1.0	0.3	0.7	0.1	-	-	-
PRD11B	470	2,986 *	49	1.6	0.4	0.9	-	#	0.1	0.2
PRD11C	473	3,010 *	22	0.7	0.3	0.4	-	-	-	#

Values less than 0.05 percent.

* Includes values that were zero-filled based on prior responses.

Note: Percents may not sum to non-response rate due to rounding.

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON- RESPONSES	NON- RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
PRD11C1	483	2,974 *	48	1.6	0.9	0.6	-	-	0.2	-
PRD11C2	2,372	1,094 *	39	3.4	2.4	1.1	-	-	-	-
PRD11D	493	2,956 *	56	1.9	0.5	1.3	-	-	0.1	#
SIZ12A	0	3,504	1	0.0	-	-	#	-	-	-
SIZ12B	0	3,496 *	9	0.3	0.1	0.1	0.1	-	-	-
SIZ12C	0	3,497 *	8	0.2	0.1	0.1	#	-	-	-
SIZ12D	8	3,490 *	7	0.2	0.1	0.1	-	-	#	-
SIZ13	1,669	1,778	58	3.2	2.7	0.4	0.1	-	-	-
SIZ14	10	3,480 *	15	0.4	0.1	0.2	#	0.1	#	-
SIZ15A1	3,299	205 *	1	0.5	0.5	-	-	-	-	-
SIZ15A2	3,472	33 *	0	0.0	-	-	-	-	-	-
SIZ15B1	3,290	215 *	0	0.0	-	-	-	-	-	-
SIZ15B2	3,429	75 *	1	1.3	1.3	-	-	-	-	-
SIZ15C1	338	3,120 *	47	1.5	0.4	0.9	0.1	-	0.1	-
SIZ15C2	2,200	1,290 *	15	1.1	0.7	0.5	-	-	-	-
SIZ15D1	338	3,117 *	50	1.6	0.4	1.0	0.1	#	0.1	#
SIZ15D2	2,591	906 *	8	0.9	0.7	0.1	-	-	-	0.1
SIZ15E1	338	3,116 *	51	1.6	0.4	1.0	0.1	0.1	0.1	-
SIZ15E2	2,035	1,450 *	20	1.4	1.1	0.2	-	0.1	-	-
SIZ15F1	338	3,118 *	49	1.5	0.4	1.0	0.1	-	0.1	#
SIZ15F2	3,044	453 *	8	1.7	1.1	0.4	-	-	-	0.2
SIZ15G1	338	3,118 *	49	1.5	0.4	1.0	0.1	-	0.1	-
SIZ15G2	3,205	292 *	8	2.7	1.7	1.0	-	-	-	-
SIZ15H1	338	3,109 *	58	1.8	0.4	1.1	0.1	0.1	0.2	-
SIZ15H2	511	2,932 *	62	2.1	1.8	0.3	-	#	-	-
COS16	419	2,881 *	205	6.6	0.0	0.9	5.7	-	-	-

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
COS16A	419	2,294 *	792	25.7	-	2.4	5.1	-	0.2	18.0
COS16B	419	2,371 *	715	23.2	#	3.2	5.1	-	0.3	14.6
COS17	426	2,943 *	136	4.4	0.3	0.6	0.9	-	0.1	2.6
COS17A	426	2,875 *	204	6.6	0.3	0.9	1.0	-	0.1	4.3
COS17B	426	2,868 *	211	6.9	0.3	1.2	0.9	-	0.1	4.4
COS18	419	2,934 *	152	4.9	0.1	1.3	2.8	-	-	0.8
COS18A	419	2,505 *	581	18.8	0.2	2.7	2.7	-	0.1	13.2
COS18B	419	2,542 *	544	17.6	0.2	3.1	2.8	-	0.1	11.4
COS19	419	3,056	30	1.0	#	0.4	0.6	-	-	-
COS19A	449	3,030 *	26	0.9	#	0.5	0.1	#	-	0.3
COS19B	449	2,942 *	114	3.7	-	3.1	0.3	-	0.1	0.3
COS19C	803	2,691	11	0.4	0.1	0.2	#	-	-	-
COS19D	421	2,960 *	124	4.0	0.3	2.3	1.0	#	-	0.4
COS19E	439 [a]	2,567 *	499	16.5	2.6	12.6	1.0	-	0.1	-
COS19F	3,118	385 *	2	0.5	0.5	-	-	-	-	-
COS20	3,256	237	12	4.8	4.4	0.4	-	-	-	-
COS21	419	2,700 *	386	12.5	0.1	9.4	1.2	-	#	1.8
COS22	419	2,874 *	212	6.9	0.1	4.3	1.3	-	-	1.2
COS23	419	3,020 *	66	2.1	-	1.0	0.9	-	#	0.2
COS24	419	2,867 *	219	7.1	#	5.1	1.2	-	-	0.7
COS25	419	2,939 *	147	4.8	-	2.6	1.0	-	-	1.1
COS26	419	2,904 *	182	5.9	#	4.1	1.3	0.1	-	0.5
INC29A	0	2,316 *	1189	33.9	0.1	26.2	7.6	-	-	-
INC29B	2,316	915	274	23.0	0.1	4.1	18.8	-	-	-
INC29C	3,482	10	13	56.5	17.4	26.1	13.0	-	-	-

[a] Includes physicians who reported they neither rent nor own office space and that the quesiton was not applicable.

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
INC29R *b*	0	3,231	274	7.8	7.8	-	-	-	-	-
INC30	10	3,090	405	11.6	1.8	5.5	4.3	-	#	-
INC30A	3,314	121 *	70	36.6	3.7	30.9	2.1	-	-	-
MAL31	0	3,416 *	89	2.5	-	1.8	0.6	0.1	#	-
MAL32	2,351	719 *	435	37.7	1.9	26.4	1.0	-	0.2	8.1
MAL33	10	3,446	49	1.4	0.5	0.5	0.4	-	-	-
MAL33A	59	3,388 *	58	1.7	0.1	1.6	-	-	#	-
MAL34	3,360	50	95	65.5	28.3	26.9	10.3	-	-	-
MAL34A	3,474	26	5	16.1	3.2	9.7	3.2	-	-	-
MAL35	31	3,361	113	3.3	0.1	2.9	0.2	-	#	-
MAL36	31	3,346	128	3.7	0.1	3.3	0.3	-	-	-
MAL37	10	3,349	146	4.2	0.7	3.0	0.4	-	-	-
MAL37A	2,600	738	167	18.5	2.0	15.8	0.4	-	0.2	-
MED38A	10	3,281 *	214	6.1	0.1	5.6	0.3	-	-	0.1
MED38B	0	3,352 *	153	4.4	0.1	3.9	0.3	-	-	0.1
MED38C	10	3,310 *	185	5.3	0.1	4.6	0.3	-	-	0.3
MED38D	10	2,924 *	571	16.3	0.1	5.5	0.3	-	-	10.4
MED38E	10	3,131 *	364	10.4	0.1	5.3	0.3	-	-	4.7
MED38F	10	3,280 *	215	6.2	0.4	5.2	0.3	-	-	0.2
MED38G	263	2,803 *	439	13.5	0.3	13.0	0.2	-	-	-
MED38H	263	2,888 *	354	10.9	0.3	10.3	0.2	-	-	0.1
MED39	255	3,222	28	0.9	0.1	0.6	0.1	-	-	-
MED40	263	3,212	30	0.9	0.1	0.7	0.1	-	-	-
MED40B	1,877	1,533 *	95	5.8	0.5	4.9	0.4	-	-	-

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b INC29R is the recode of responses from INC29A, B, and C into a single variable. All item non-response is classified into a single non-response category.

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
MED40C	2,004	1,329 *	172	11.5	1.4	9.6	0.5	-	-	-
MED41A	461	2,899 *	145	4.8	0.6	3.9	0.2	-	0.1	-
MED41B	461	2,892 *	152	5.0	0.7	4.0	0.2	-	0.1	-
MED41C	797	2,571 *	137	5.1	0.6	4.2	0.2	-	#	-
MED41D	797	2,550 *	158	5.8	0.8	4.7	0.2	-	0.1	-
MED42	437	2,760 *	308	10.0	2.3	7.5	0.2	-	#	-
DEM43	10	3,473	22	0.6	0.1	#	0.5	-	-	-
EQUIPMENT SUPPLEMENT										
EQU44A	10	3,487	8	0.2	0.2	0.1	-	-	-	-
EQU44AA	10	3,443	52	1.5	1.3	0.2	-	-	-	-
EQU45A1	2,642	843	20	2.3	1.0	1.3	-	-	-	-
EQU45A2	2,642	843	20	2.3	1.0	1.3	-	-	-	-
EQU45A3	2,642	843	20	2.3	1.0	1.3	-	-	-	-
EQU47A	2,642	571 *	292	33.8	3.6	28.9	0.6	-	-	0.8
EQU48A	2,642	812	51	5.9	3.2	2.5	0.1	-	-	-
EQU49A	3,446	42	17	28.8	3.4	25.4	-	-	-	-
EQU50A	2,642	623	240	27.8	3.9	22.0	0.3	-	-	1.5
EQU51A	2,642	763 *	100	11.6	1.5	9.5	0.5	0.1	-	-
EQU52AR	2,655 *c*	725	125	16.0	1.7	12.1	0.6	0.1	-	-
EQU53AR	2,655 *c*	714	136	17.3	2.0	13.2	0.5	0.1	-	-
EQU44B	10	3,485	10	0.3	0.2	0.1	-	-	-	-
EQU44AB	10	3,441	54	1.5	1.3	0.3	-	-	-	-
EQU45B1	2,353	1,128	24	2.1	1.3	0.8	-	-	-	-
EQU45B2	2,353	1,129	23	2.0	1.2	0.8	-	-	-	-
EQU45B3	2,353	1,129	23	2.0	1.2	0.8	-	-	-	-
EQU47B	2,353	764 *	388	33.7	3.5	28.5	0.3	-	-	1.5

c Includes physicians who reported they did not perform the procedure.

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
EQU48B	2,353	1,089	63	5.5	3.3	2.2	0.0	-	-	-
EQU49B	3,472	26	7	21.2	-	21.2	0.0	-	-	-
EQU50B	2,353	888 *	264	22.9	3.7	16.8	0.3	-	-	2.2
EQU51B	2,353	1,041 *	111	9.6	1.4	7.6	0.3	0.3	-	-
EQU52BR	2,376 *c*	1,017	112	11.7	1.8	7.5	0.3	0.2	-	-
EQU53BR	2,376 *c*	1,016	113	11.8	1.9	7.4	0.3	0.3	-	-
EQU44C	10	3,481	14	0.4	0.3	0.1	-	-	-	-
EQU44AC	10	3,435	60	1.7	1.4	0.3	-	-	-	-
EQU45C1	2,893	587	25	4.1	2.0	2.1	-	-	-	-
EQU45C2	2,893	589	23	3.8	2.0	1.8	-	-	-	-
EQU45C3	2,893	589	23	3.8	2.0	1.8	-	-	-	-
EQU46A	2,893	492	120	19.6	9.8	9.8	-	-	-	-
EQU46B	2,893	490	122	19.9	9.8	10.1	-	-	-	-
EQU46M	2,893	491	121	19.8	9.8	10.0	-	-	-	-
EQU46R	2,893	491	121	19.8	9.8	10.0	-	-	-	-
EQU47C	2,893	449 *	163	26.6	4.2	19.0	1.1	-	-	2.3
EQU48C	2,893	564	48	7.8	4.6	3.3	-	-	-	-
EQU49C	3,470	31	4	11.4	2.9	8.6	-	-	-	-
EQU50C	2,892	435 *	178	29.0	4.6	18.9	0.7	-	-	4.9
EQU51C	2,893	527 *	85	13.9	2.5	10.0	0.7	0.8	-	-
EQU52CR	2,904 *c*	512	89	16.3	2.8	10.5	0.7	0.7	-	-
EQU53CR	2,904 *c*	509	92	16.8	2.8	11.3	0.7	0.3	-	-
EQU44D	2,336	1,154	15	1.3	1.2	0.1	-	-	-	-
EQU44AD	2,336	1,134	35	3.0	2.8	0.2	-	-	-	-
EQU45D1	3,379	120	6	4.8	2.4	2.4	-	-	-	-
EQU45D2	3,379	120	6	4.8	2.4	2.4	-	-	-	-
EQU45D3	3,379	120	6	4.8	2.4	2.4	-	-	-	-

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
EQU47D	3,379	75	51	40.5	4.0	31.0	1.6	-	-	4.0
EQU48D	3,379	115	11	8.7	4.8	4.0	-	-	-	-
EQU49D	3,499	5	1	16.7	-	16.7	-	-	-	-
EQU50D	3,379	77 *	49	38.9	4.8	28.6	-	-	-	5.6
EQU51D	3,379	95 *	31	24.6	3.2	19.0	0.8	1.6	-	-
EQU52DR	3,387 *c*	95	23	24.6	3.2	14.3	0.8	-	-	-
EQU53DR	3,387 *c*	94	24	25.4	3.2	15.1	0.8	-	-	-
EQU44E	2,335	1,155	15	1.3	1.2	0.1	-	-	-	-
EQU44AE	2,335	1,136	34	2.9	2.7	0.2	-	-	-	-
EQU45E1	3,068	422	15	3.4	2.1	1.4	-	-	-	-
EQU45E2	3,068	421	16	3.7	2.1	1.6	-	-	-	-
EQU45E3	3,068	421	16	3.7	2.1	1.6	-	-	-	-
EQU47E	3,068	295 *	142	32.5	3.2	25.4	0.5	-	-	3.4
EQU48E	3,068	406	31	7.1	4.1	3.0	-	-	-	-
EQU49E	3,480	22	3	12.0	-	12.0	-	-	-	-
EQU50E	3,068	323 *	114	26.1	4.3	18.3	0.2	-	-	3.2
EQU51E	3,068	378 *	59	13.5	1.6	10.5	0.5	0.9	-	-
EQU52ER	3,074 *c*	380	51	13.0	2.1	9.2	0.5	-	-	-
EQU53ER	3,074 *c*	379	52	13.3	2.5	8.7	0.5	0.2	-	-
EQU44F	2,336	1,153	16	1.4	1.3	0.1	-	-	-	-
EQU44AF	2,336	1,135	34	2.9	2.7	0.2	-	-	-	-
EQU45F1	3,379	120	6	4.8	2.4	2.4	-	-	-	-
EQU45F2	3,379	120	6	4.8	2.4	2.4	-	-	-	-
EQU45F3	3,379	120	6	4.8	2.4	2.4	-	-	-	-
EQU47F	3,379	61 *	65	51.6	7.1	34.9	1.6	-	-	7.9
EQU48F	3,379	108	18	14.3	7.9	6.3	-	-	-	-

TABLE 1, cont'd.

ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
EQU49F	3,501	3	1	25.0	-	25.0	-	-	-	-
EQU50F	3,379	70 *	56	44.4	5.6	31.0	-	-	-	7.9
EQU51F	3,379	94 *	32	25.4	3.2	18.3	0.8	3.2	-	-
EQU52FR	3,388 c	92	25	27.0	3.2	15.9	0.8	-	-	-
EQU53FR	3,388 c	91	26	27.8	3.2	16.7	0.8	-	-	-
EQU44G	2,702	771	32	4.0	3.7	0.2	-	-	-	-
EQU44AG	2,702	755	48	6.0	5.9	0.1	-	-	-	-
EQU45G1	3,388	107	10	8.5	3.4	5.1	-	-	-	-
EQU45G2	3,388	107	10	8.5	3.4	5.1	-	-	-	-
EQU45G3	3,388	107	10	8.5	3.4	5.1	-	-	-	-
EQU47G	3,388	58	59	50.4	6.0	35.9	-	-	-	8.5
EQU48G	3,388	100	17	14.5	7.7	6.8	-	-	-	-
EQU49G	3,499	6	0	0.0	-	-	-	-	-	-
EQU50G	3,388	63 *	54	46.2	6.8	30.8	-	-	-	8.5
EQU51G	3,388	92 *	25	21.4	3.4	16.2	1.7	-	-	-
EQU52GR	3,393 c	89	23	19.7	1.7	16.2	1.7	-	-	-
EQU53GR	3,393 c	88	24	20.5	2.6	16.2	1.7	-	-	-
EQU44H	2,702	771	32	4.0	3.9	0.1	-	-	-	-
EQU44AH	2,702	756	47	5.9	5.7	0.1	-	-	-	-
EQU45H1	3,293	202	10	4.7	2.4	2.4	-	-	-	-
EQU45H2	3,293	202	10	4.7	2.4	2.4	-	-	-	-
EQU45H3	3,293	202	10	4.7	2.4	2.4	-	-	-	-
EQU47H	3,293	123 *	89	42.0	5.7	29.7	0.5	0.5	-	5.7
EQU48H	3,293	192	20	9.4	5.7	3.8	-	-	-	-
EQU49H	3,489	14	2	12.5	6.3	6.3	-	-	-	-
EQU50H	3,293	142 *	70	33.0	4.7	22.6	-	0.5	-	5.2
EQU51H	3,293	182 *	30	14.2	1.4	10.8	0.9	0.9	-	-
EQU52HR	3,301 c	173	31	18.4	1.9	10.8	1.4	0.5	-	-

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
EQU53HR	3,301 *c*	175	29	17.5	1.9	9.9	1.4	0.5	-	-
EQU44I	3,362	138	5	3.5	2.8	0.7	-	-	-	-
EQU44AI	3,362	136	7	4.9	4.2	0.7	-	-	-	-
EQU45I1	3,429	72	4	5.3	2.6	2.6	-	-	-	-
EQU45I2	3,429	72	4	5.3	2.6	2.6	-	-	-	-
EQU45I3	3,429	72	4	5.3	2.6	2.6	-	-	-	-
EQU47I	3,429	48	28	36.8	7.9	21.1	1.3	-	-	6.6
EQU48I	3,429	69	7	9.2	6.6	2.6	-	-	-	-
EQU49I	3,500	3	2	40.0	20.0	20.0	-	-	-	-
EQU50I	3,429	48 *	28	36.8	6.6	19.7	-	-	-	10.5
EQU51I	3,429	69 *	7	9.2	5.3	3.9	-	-	-	-
EQU52IR	3,430 *c*	65	10	14.5	5.3	7.9	-	-	-	-
EQU53IR	3,430 *c*	65	10	14.5	5.3	7.9	-	-	-	-
EQU44J	3,362	137	6	4.2	3.5	0.7	-	-	-	-
EQU44AJ	3,362	135	8	5.6	4.9	0.7	-	-	-	-
EQU45J1	3,427	73	5	6.4	2.6	3.8	-	-	-	-
EQU45J2	3,427	74	4	5.1	2.6	2.6	-	-	-	-
EQU45J3	3,427	74	4	5.1	2.6	2.6	-	-	-	-
EQU47J	3,427	45 *	33	42.3	10.3	23.1	1.3	-	-	7.7
EQU48J	3,427	71	7	9.0	6.4	2.6	-	-	-	-
EQU49J	3,503	2	0	0.0	-	-	-	-	-	-
EQU50J	3,427	44 *	34	43.6	7.7	21.8	2.6	-	-	11.5
EQU51J	3,427	73 *	5	6.4	3.8	2.6	-	-	-	-
EQU52JR	3,428 *c*	70	7	10.3	3.8	5.1	-	-	-	-
EQU53JR	3,428 *c*	71	6	9.0	2.6	5.1	-	-	-	-
EQU44K	3,362	137	6	4.2	3.5	0.7	-	-	-	-

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
EQU44AK	3,362	136	7	4.9	4.2	0.7	-	-	-	-
EQU45K1	3,489	15	1	6.3	-	6.3	-	-	-	-
EQU45K2	3,489	15	1	6.3	-	6.3	-	-	-	-
EQU45K3	3,489	15	1	6.3	-	6.3	-	-	-	-
EQU47K	3,489	8	8	50.0	6.3	25.0	6.3	-	-	12.5
EQU48K	3,489	14	2	12.5	6.3	6.3	-	-	-	-
EQU49K	3,505	0	0	-	-	-	-	-	-	-
EQU50K	3,489	8 *	8	50.0	-	31.3	6.3	-	-	12.5
EQU51K	3,489	14	2	12.5	-	12.5	-	-	-	-
EQU52KR	3,489	14	2	12.5	-	12.5	-	-	-	-
EQU53KR	3,489	14	2	12.5	-	12.5	-	-	-	-
EQU44L	3,321	176	8	4.3	3.8	0.5	-	-	-	-
EQU44AL	3,321	173	11	6.0	5.4	0.5	-	-	-	-
EQU45L1	3,481	20	4	16.7	12.5	4.2	-	-	-	-
EQU45L2	3,481	20	4	16.7	12.5	4.2	-	-	-	-
EQU45L3	3,481	20	4	16.7	12.5	4.2	-	-	-	-
EQU47L	3,481	12	12	50.0	16.7	33.3	-	-	-	-
EQU48L	3,481	20	4	16.7	12.5	4.2	-	-	-	-
EQU49L	3,502	2	1	33.3	-	33.3	-	-	-	-
EQU50L	3,481	13 *	11	45.8	16.7	20.8	-	-	-	8.3
EQU51L	3,481	19	5	20.8	4.2	16.7	-	-	-	-
EQU52LR	3,481	18	6	25.0	4.2	20.8	-	-	-	-
EQU53LR	3,481	18	6	25.0	4.2	20.8	-	-	-	-
EQU44M	3,321	176	8	4.3	3.8	0.5	-	-	-	-
EQU44AM	3,321	173	11	6.0	5.4	0.5	-	-	-	-

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
EQU45M1	3,487	15	3	16.7	5.6	11.1	-	-	-	-
EQU45M2	3,487	15	3	16.7	5.6	11.1	-	-	-	-
EQU45M3	3,487	15	3	16.7	5.6	11.1	-	-	-	-
EQU47M	3,487	10	8	44.4	11.1	33.3	-	-	-	-
EQU48M	3,487	16	2	11.1	5.6	5.6	-	-	-	-
EQU49M	3,500	4	1	20.0	-	20.0	-	-	-	-
EQU50M	3,487	7	11	61.1	11.1	44.4	-	-	-	5.6
EQU51M	3,487	15 *	3	16.7	5.6	11.1	-	-	-	-
EQU52MR	3,487	13	5	27.8	5.6	22.2	-	-	-	-
EQU53MR	3,487	13	5	27.8	5.6	22.2	-	-	-	-
EQU44N	3,321	176	8	4.3	3.8	0.5	-	-	-	-
EQU44AN	3,321	172	12	6.5	5.4	0.5	0.5	-	-	-
EQU45N1	3,494	9	2	18.2	18.2	0.0	-	-	-	-
EQU45N2	3,494	8	3	27.3	18.2	9.1	-	-	-	-
EQU45N3	3,494	8	3	27.3	18.2	9.1	-	-	-	-
EQU47N	3,494	4	7	63.6	18.2	45.5	-	-	-	-
EQU48N	3,494	9	2	18.2	18.2	0.0	-	-	-	-
EQU49N	3,505	0	0	-	-	-	-	-	-	-
EQU50N	3,494	5 *	6	54.5	18.2	27.3	-	-	-	9.1
EQU51N	3,494	8 *	3	27.3	18.2	9.1	-	-	-	-
EQU52NR	3,495 *c*	7	3	36.4	18.2	9.1	-	-	-	-
EQU53NR	3,495 *c*	7	3	36.4	18.2	9.1	-	-	-	-
LAB54A	10	3,481	14	0.4	0.3	0.1	-	-	-	-
LAB54AA	10	3,428	67	1.9	1.7	0.2	0.0	-	-	-
LAB55A1	2,808	682	15	2.2	0.7	1.1	0.3	-	-	-
LAB55A2	2,808	681	16	2.3	0.7	1.3	0.3	-	-	-

TABLE 1, cont'd.

ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
LAB55A3	2,808	682	15	2.2	0.7	1.1	0.3	-	-	-
LAB56A	2,808	482 *	215	30.8	3.9	23.2	1.1	-	0.1	2.4
LAB57A	2,808	642	55	7.9	4.6	2.9	0.4	-	-	-
LAB58A	3,465	29	11	27.5	7.5	20.0	-	-	-	-
LAB59A	2,808	500 *	197	28.3	5.9	18.7	0.7	0.1	0.1	2.7
LAB60A	2,807	582 *	116	16.6	3.7	12.3	0.3	0.1	-	0.1
LAB61A1	2,808	660	37	5.3	2.7	2.4	0.1	-	-	-
LAB61A2	2,808	657	40	5.7	3.2	2.4	0.1	-	-	-
LAB61A3	2,808	668	29	4.2	2.2	1.9	0.1	-	-	-
LAB61A4	2,808	669	28	4.0	2.0	1.9	0.1	-	-	-
LAB62A	2,808	673	24	3.4	1.7	1.6	0.1	-	-	-
LAB62AA	3,240	220	45	17.0	2.6	10.6	-	3.8	-	-
LAB62AB	3,240	253	12	4.5	0.8	3.8	-	-	-	-
LAB54B	10	3,478	17	0.5	0.4	0.1	-	-	-	-
LAB54AB	10	3,422	73	2.1	1.9	0.2	-	-	-	-
LAB55B1	2,743	732	30	3.9	2.2	1.4	0.3	-	-	-
LAB55B2	2,743	730	32	4.2	2.5	1.4	0.3	-	-	-
LAB55B3	2,743	730	32	4.2	2.4	1.6	0.3	-	-	-
LAB56B	2,743	478 *	284	37.3	4.6	25.6	0.9	-	0.3	5.9
LAB57B	2,743	683	79	10.4	6.7	3.4	0.3	-	-	-
LAB58B	3,466	31	8	20.5	5.1	15.4	-	-	-	-
LAB59B	2,743	533 *	229	30.1	7.0	17.6	0.5	0.1	0.4	4.5
LAB60B	2,742	632 *	131	17.2	4.8	11.9	0.3	-	0.1	-
LAB61B1	2,743	729	33	4.3	2.4	1.8	0.1	-	-	-
LAB61B2	2,743	732	30	3.9	2.1	1.7	0.1	-	-	-
LAB61B3	2,743	723	39	5.1	2.9	2.1	0.1	-	-	-
LAB61B4	2,743	728	34	4.5	2.6	1.7	0.1	-	-	-

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON-RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
LAB61B5	2,743	728	34	4.5	2.6	1.7	0.1	-	-	-
LAB62B	2,743	715	47	6.2	3.4	2.6	0.1	-	-	-
LAB62BA	3,282	162	61	27.4	6.7	18.8	-	1.8	-	-
LAB62BB	3,282	205	18	8.1	0.4	7.6	-	-	-	-
LAB54C	10	3,477	18	0.5	0.4	0.1	-	-	-	-
LAB54AC	10	3,416	79	2.3	2.1	0.2	-	-	-	-
LAB55C1	3,052	434	19	4.2	2.6	1.3	0.2	-	-	-
LAB55C2	3,052	434	19	4.2	2.6	1.3	0.2	-	-	-
LAB55C3	3,052	434	19	4.2	2.6	1.3	0.2	-	-	-
LAB56C	3,052	252 *	201	44.4	6.6	29.4	1.5	0.2	0.2	6.4
LAB57C	3,052	403	50	11.0	7.3	3.5	0.2	-	-	-
LAB58C	3,484	17	4	19.0	9.5	9.5	-	-	-	-
LAB59C	3,052	307 *	146	32.2	6.8	19.0	0.7	0.2	-	5.5
LAB60C	3,051	364 *	90	19.8	5.3	13.9	0.4	-	-	0.2
LAB54D	10	3,474	21	0.6	0.5	0.1	-	-	-	-
LAB54AD	10	3,411	84	2.4	2.2	0.2	-	-	-	-
LAB55D1	3,419	75	11	12.8	8.1	4.7	-	-	-	-
LAB55D2	3,419	75	11	12.8	8.1	4.7	-	-	-	-
LAB55D3	3,419	75	11	12.8	8.1	4.7	-	-	-	-
LAB56D	3,419	34 *	52	60.5	11.6	43.0	1.2	-	-	4.7
LAB57D	3,419	68	18	20.9	11.6	9.3	-	-	-	-
LAB58D	3,503	1	1	50.0	50.0	-	-	-	-	-
LAB59D	3,419	37 *	49	57.0	14.0	36.0	1.2	-	-	5.8
LAB60D	3,418	45 *	42	48.3	11.5	35.6	1.1	-	-	-
LAB63	2,496	819	190	18.8	4.7	14.0	0.2	-	-	-
LAB64	2,496	937	72	7.1	3.9	3.2	0.1	-	-	-

TABLE 1, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	VALID SKIPS	VALID RESPONSES	NON RESPONSES	NON-RESPONSE RATE	% MISSING	% DON'T KNOW	% REFUSED	% OUT OF RANGE	% UNCODEABLE	% COMBINED
LAB65A	3,126	357	22	5.8	1.1	4.7	-	-	-	-
LAB65B	3,126	337	42	11.1	2.9	8.2	-	-	-	-
LAB66A	2,496	880	129	12.8	7.3	5.4	0.1	-	-	-
LAB66B	2,496	880	129	12.8	7.3	5.4	0.1	-	-	-
LAB66C	2,496	868	141	14.0	7.7	6.1	0.1	-	-	-
LAB66D	2,496	882	127	12.6	7.3	5.2	0.1	-	-	-
LAB67A	2,496	954	55	5.5	4.2	1.2	0.1	-	-	-
LAB68B	2,496	953	56	5.6	4.2	1.3	0.1	-	-	-
LAB67C	2,496	953	56	5.6	4.2	1.3	0.1	-	-	-
LAB67E	2,496	952	57	5.6	4.4	1.2	0.1	-	-	-
LAB68	2,496	934	75	7.4	4.1	3.3	0.1	-	-	-
INT69	0	3,356	149	4.3	3.5	0.7	0.1	-	#	-
INT69A	0	3,324	181	5.2	4.0	1.1	0.1	-	-	-
INT69B	0	3,505	0	0.0	-	-	-	-	-	-

Source: 1988 Physicians' Practice Costs and Income Survey.

TABLE 2
SUMMARY OF NON-RESPONSE RATES: CORE QUESTIONNAIRE

0-1% (n=26)	>1-4% (n=28)	>4-7% (n=19)	>7-10% (n=3)	>10-16% (n=6)	>16-20% (n=6)	>20-30% (n=3)	>=30% (n=5)
7C	7D	16	24	21	18A	16A	29A
8	10D	17	29R	30	18B	16B	29C
9A	10E	17A	42	38E	19E	29B	30A
9B	11B	17B		38G	34A		32
9D	11C1	18		38H	37A		34
10A	11C2	20		40C	38D		
10B	11D	22					
10C	13	25					
11A	15B2	26					
11C	15C1	37					
12A	15C2	38A					
12B	15D1	38B					
12C	15E1	38C					
12D	15E2	38F					
14	15F1	40B					
15A1	15F2	41A					
15A2	15G1	41B					
15B1	15G2	41C					
15D2	15H1	41D					
19	15H2						
19A	19B						
19C	19D						
19F	23						
39	31						
40	33						
43	33A						
	35						
	36						

Source: 1988 Physicians' Practice Costs and Income Survey.

TABLE 3
SUMMARY OF NON-RESPONSE RATES: EQUIPMENT SUPPLEMENT

0-1% (n=11)	>1-4% (n=34)		>4-7% (n=54)		>7-10% (n=16)	>10-16% (n=32)	>16-20% (n=28)	>20-30% (n=29)	>=30% (n=36)
44A	44AA	45B3	44AG	45J3	45G1	48F	45L1	45N2	47A
44B	44AB	45C2	44AH	45K1	45G2	48G	45L2	45N3	47B
44C	44AC	45C3	44AI	45K2	45G3	48K	45L3	47C	47D
49G	44AD	45E1	44AJ	45K3	48C	48M	45M1	49A	47E
49J	44AE	45E2	44AK	48A	48D	49C	45M2	49B	47F
49K	44AF	45E3	44AL	48B	48E	49E	45M3	49F	47G
49N	44D	54AA	44AM	51J	48H	49H	45N1	50A	47H
54A	44E	54AB	44AN	55B2	48I	51A	46A	50B	47I
54B	44F	54AC	44J	55B3	48J	51C	46B	50C	47J
54C	44G	54AD	44K	55C1	51B	51E	46M	50E	47K
54D	44H	55A1	44L	55C2	51I	51H	46R	51D	47L
	44I	55A2	44M	55C3	53JR	51K	48L	51F	47M
	45A1	55A3	44N	61A1	57A	52AR	48N	51G	47N
	45A2	55B1	45C1	61A2	62BB	52BR	49D	51L	49I
	45A3	61A4	45D1	61A3	64	52ER	49M	51N	49L
	45B1	61B2	45D2	61B1	68	52IR	51M	52DR	50D
	45B2	62A	45D3	61B3		52JR	52CR	52FR	50F
			45F1	61B4		52KR	52GR	52LR	50G
			45F2	61B5		53BR	52HR	52MR	50H
			45F3	62AB		53ER	53AR	53DR	50I
			45H1	62B		53IR	53CR	53FR	50J
			45H2	65A		53KR	53HR	53GR	50K
			45H3	67A		55D1	58C	53LR	50L
			45I1	67C		55D2	60A	53MR	50M
			45I2	67E		55D3	60B	57D	50N
			45I3	68B		57B	60C	58A	52NR
			45J1			57C	62AA	58B	53NR
			45J2			65B	63	59A	56A
						66A		62BA	56B
						66B			56C
						66C			56D
						66D			58D
									59B
									59C
									59D
									60D

Source: 1988 Physicians' Practice Costs and Income Survey.

TABLE 4
COMPARISON OF ORIGINAL AND REVISED ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE: CORE QUESTIONNAIRE

VARIABLE	ORIGINAL NON-RESPONSE RATE (1)	REVISED NON-RESPONSE RATE EXCLUDING COMBINED CODE (2)	DIFFERENTIAL (2) - (1)	REVISED NON-RESPONSE RATE INCLUDING COMBINED CODE (3)	DIFFERENTIAL (3) - (1)
SCR5A	0.0	0.0	0.0	0.0	0.0
SCR5B	0.0	0.0	0.0	0.0	0.0
SCR5C	0.0	0.0	0.0	0.0	0.0
SCR5D	0.0	0.0	0.0	0.0	0.0
SCR5E	0.0	0.0	0.0	0.0	0.0
SCR5F	0.0	0.0	0.0	0.0	0.0
SCR5G	0.0	0.0	0.0	0.0	0.0
SCR6	0.0	0.0	0.0	0.0	0.0
SCR7A	0.0	0.0	0.0	0.0	0.0
SCR7B	0.0	0.0	0.0	0.0	0.0
SCR7C	0.1	0.1	0.0	0.1	0.0
PRD8	0.3	0.3	0.0	0.3	0.0
PRD9A	0.1	0.1	0.0	0.1	0.0
PRD9B	0.1	0.1	0.0	0.1	0.0
PRD10A	0.3	0.3	0.0	0.4	0.1
PRD10B	0.7	0.3	-0.4	0.8	0.1
PRD10C	0.6	0.6	0.0	0.9	0.3
PRD10D	0.8	0.8	0.0	1.6	0.8
PRD10E	1.0	1.0	0.0	1.1	0.1
PRD11A	1.1	1.0	0.0	1.0	0.0
PRD11B	2.1	1.4	-0.7	1.6	-0.5
PRD11C	1.3	0.7	-0.6	0.7	-0.6
PRD11D	2.4	1.9	-0.5	1.9	-0.6
SIZ12A	0.0	0.0	0.0	0.0	0.0
SIZ12B	0.5	0.3	-0.2	0.3	-0.2
SIZ12C	0.2	0.2	0.0	0.2	0.0
SIZ12D	2.6	0.2	-2.4	0.2	-2.4
SIZ14	0.3	0.4	0.1	0.4	0.1
COS16	8.8	6.6	-2.2	6.6	-2.2
COS16A	9.7	7.7	-2.0	25.7	16.0
COS16B	10.3	8.6	-1.7	23.2	12.8
COS17	9.8	1.8	-8.0	4.4	-5.4
COS17A	12.0	2.3	-9.7	6.6	-5.4
COS17B	12.7	2.5	-10.3	6.9	-5.9
COS18	4.4	4.1	-0.3	4.9	0.5
COS18A	5.9	5.6	-0.3	18.8	12.9
COS18B	6.6	6.2	-0.4	17.6	11.0
COS19A	0.7	0.6	-0.2	0.9	0.1
COS19B	16.2	3.4	-12.8	3.7	-12.5
COS19D	3.7	3.6	-0.1	4.0	0.3
COS21	10.7	10.7	0.0	12.5	1.8
COS22	5.7	5.7	0.0	6.9	1.2

TABLE 4, cont'd.
ITEM NON-RESPONSE RATES, BY SOURCE OF NON-RESPONSE

VARIABLE	ORIGINAL NON-RESPONSE RATE (1)	REVISED NON-RESPONSE RATE EXCLUDING COMBINED CODE (2)	DIFFERENTIAL (2) - (1)	REVISED NON-RESPONSE RATE INCLUDING COMBINED CODE (3)	DIFFERENTIAL (3) - (1)
COS23	1.9	1.9	0.0	2.1	0.2
COS24	6.4	6.4	0.0	7.1	0.7
COS25	3.6	3.7	0.0	4.8	1.1
COS26	5.3	5.4	0.1	5.9	0.6
INC29A	34.0	33.9	0.0	33.9	0.0
INC29B	23.1	23.0	-0.1	23.0	-0.1
INC29C	56.5	56.5	0.0	56.5	0.0
INC29R	7.9	7.8	0.5	8.4	0.5
INC30	11.5	11.6	0.1	11.6	0.1
MAL31	3.1	2.5	-0.5	2.5	-0.5
MAL32	29.4	29.6	0.2	37.7	8.3
MAL35	3.2	3.3	0.0	3.3	0.0
MAL36	3.7	3.7	0.0	3.7	0.0
MED38A	6.0	6.0	0.0	6.1	0.1
MED38B	4.3	4.3	0.0	4.4	0.1
MED38C	5.1	5.0	-0.1	5.3	0.2
MED38D	6.7	5.9	-0.8	16.3	9.6
MED38E	5.9	5.7	-0.2	10.4	4.5
MED38F	6.0	6.0	0.0	6.2	0.2
MED38G	13.8	13.5	-0.2	13.5	-0.2
MED38H	11.1	10.8	-0.3	10.9	-0.2
MED39	0.9	0.9	0.0	0.9	0.0
MED40	0.9	0.9	0.0	0.9	0.0
MED40B	5.8	5.8	0.0	5.8	0.0
MED40C	11.5	11.5	0.0	11.5	0.0
MED41A	4.7	4.8	0.1	4.8	0.1
MED41B	5.0	5.0	0.0	5.0	0.0
MED41C	4.5	5.1	0.5	5.1	0.5
MED41D	5.2	5.8	0.6	5.8	0.6

Source: (1) Original non-response rates: Methodology Report for the 1988 PPCIS, Thaljii et al.

(2) Revised non-response rates: Handbook for Using the 1988 PPCIS, Dayhoff et al.

b INC29R is the recode of responses from INC29A, B, and C into a single variable.
All item non-response is classified into a single non-response category.

TABLE 5
EXTENT OF CASE-LEVEL ITEM NON-RESPONSE: CORE QUESTIONNAIRE

Item Non-Response*	Number of Physicians**	Percent of Physicians	Cumulative Percent
Total	3,495	100.0%	-
0%	641	18.3	18.3%
1-4%	1,449	41.5	59.8
5-7%	532	15.2	75.0
8-10%	348	10.0	85.0
11-16%	281	8.0	93.0
17-20%	83	2.4	95.4
21-35%	143	4.1	99.5
36-50%	15	0.4	99.9
Over 50%	3 ***	0.1	100.0

* Out of a possible 95 items, excluding valid skips and not applicable items.

** Excludes physicians who responded via mail questionnaires, which were abbreviated versions of the PPCIS instrument (n=10).

*** The three cases had non-response rates of 51%, 53%, and 63%.

Source: 1988 Physicians' Practice Costs and Income Survey.

TABLE 6
EXTENT OF CASE-LEVEL ITEM NON-RESPONSE: EQUIPMENT SUPPLEMENT

Item Non-Response*	Number of Physicians**	Percent of Physicians	Cumulative Percent
Total	3,495	100.0%	-
0%	2,181	62.4	62.4%
1-4%	446	12.8	75.2
5-7%	200	5.7	80.9
8-10%	123	3.5	84.4
11-16%	200	5.7	90.1
17-20%	83	2.4	92.5
21-35%	176	5.0	97.5
36-50%	61	1.8	99.3
51-75%	18	0.5	99.8
Over 75%	7 ***	0.2	100.0

* Out of a possible 240 items, excluding valid skips and not applicable items.

** Excludes physicians who responded via mail questionnaires, because they were excluded from the equipment supplement.

*** The seven cases had non-response rates of 78%, 81%, 82%, 84%, and 100% (3).

Source: 1988 Physicians' Practice Costs and Income Survey.

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